



101876

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

IN THE MATTER OF:)
)
THE BERRY'S CREEK STUDY AREA)
) U.S. EPA Index No.
) II-CERCLA-2007-2006
RESPONDENTS listed on Appendix A.)
)
)
Proceeding Under Sections 104, 107,)
122(a) and 122(d)(3) of the Comprehensive)
Environmental Response, Compensation,)
and Liability Act as amended)
(42 U.S.C. §§ 9604, 9607, 9622(a),)
9622(d)(3)).)
)

ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT
FOR RI/FS SCOPING ACTIVITIES, BERRY'S CREEK STUDY AREA

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I. INTRODUCTION

1. This Administrative Settlement Agreement and Order on Consent ("Settlement Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the Respondents listed in Appendix A ("Respondents"). The Settlement Agreement concerns the performance of, and reimbursement for all costs incurred by EPA in connection with, certain tasks, described herein as the Scoping Activities, to support the Remedial Investigation and Feasibility Study ("RI/FS") to be conducted at the Berry's Creek Study Area ("Site") located in the Boroughs of Carlstadt, East Rutherford, Moonachie, Rutherford, Teterboro and Woodridge, Bergen County, New Jersey.

II. JURISDICTION

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, ("CERCLA") as amended, 42 U.S.C. §§ 9604, 9607, and 9622. This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to the Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-C and 14-14-D.

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), EPA notified the U.S. Department of Commerce and the U.S. Fish and Wildlife Service on August 5, 2005, of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal trusteeship.

4. EPA and Respondents recognize that this Settlement Agreement has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Settlement Agreement do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement, the validity of the findings of fact, conclusions of law and determinations in

Section VI (EPA's Findings of Fact and Conclusions of Law) of this Settlement Agreement. Respondents agree to comply with and be bound by the terms of this Settlement Agreement and further agree that they will not contest the basis or validity of this Settlement Agreement or its terms in any action to enforce its provisions.

III. PARTIES BOUND

5. This Settlement Agreement applies to and is binding upon EPA and upon Respondents and their successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Settlement Agreement.

6. Respondents are jointly and severally liable for carrying out all activities required by this Settlement Agreement. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Settlement Agreement, the remaining Respondents shall complete all such requirements.

7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and comply with this Settlement Agreement. Respondents shall be responsible for any noncompliance with this Settlement Agreement.

8. Each undersigned representative of Respondents certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement and to execute and legally bind the Respondent he or she represents to this document.

IV. DEFINITIONS

9. Unless otherwise expressly provided herein, the terms of this Settlement Agreement shall have the same meaning as assigned to them by CERCLA and the Resource Conservation and Recovery Act ("RCRA"), as amended, 42 U.S.C. §§ 9601-9675 and 6901-6991, respectively. Whenever the following terms listed

below are used in this Settlement Agreement and Attachments, the following definitions shall apply:

A. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, et seq.

B. "Contractor" shall mean the company, companies or individuals retained by Respondents to perform any of the Work required by this Settlement Agreement.

C. "Day" shall mean a calendar day unless otherwise expressly stated. "Working Day" shall mean a day consisting of hours 8 a.m. to 6 p.m., other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Settlement Agreement, where the last day would fall on a Saturday, Sunday, or Federal Holiday, the period shall run until the close of business on the next Working Day.

D. "Designated Project Coordinator" shall mean the person designated by Respondents who shall be charged with the duty of being knowledgeable of the performance of all work performed by Respondents pursuant to this Settlement Agreement.

E. "EPA" or "Agency" shall mean the United States Environmental Protection Agency and any successor department or agency of the United States.

F. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Settlement Agreement, verifying the Work, or otherwise implementing, overseeing, or enforcing this Settlement Agreement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Paragraph 50 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), and Paragraph 37 (emergency response), and Paragraph 79 (Work Takeover).

G. "Hazardous substances" shall mean any substance (or mixture containing any hazardous substance) that falls

within the definition of a "hazardous substance," as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

H. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

I. "NJDEP" shall mean the New Jersey Department of Environmental Protection.

J. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300, and all amendments thereto.

K. "Paragraph" shall mean a portion of this Settlement Agreement identified by an Arabic numeral.

L. "Parties" shall mean the United States Environmental Protection Agency and Respondents.

M. "Respondents" shall mean signatories to this Settlement Agreement other than EPA.

N. "Scoping Activities" shall mean the activities described in the Scoping Activities Work Plan.

O. "Scoping Activities Work Plan" or "Work Plan" shall mean the work plan for certain field and related activities at the Site, as set forth in Appendix B to this Settlement Agreement. The Scoping Activities Work Plan is incorporated into this Settlement Agreement and is an enforceable part of this Settlement Agreement as are any modifications made thereto in accordance with this Settlement Agreement.

P. "Section" shall mean a portion of this Settlement Agreement identified by a Roman numeral.

Q. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent (including any amendments hereto pursuant to Section XXX), all appendices attached hereto (listed in Section XXVIII) and all documents incorporated by reference into this document including without limitation EPA-approved submissions. EPA-approved submissions (other than progress reports) are incorporated into and become a part of the Settlement Agreement upon approval by EPA. In the event of conflict between this Settlement Agreement and any appendix, this Settlement Agreement shall control.

R. "Site" shall mean the Berry's Creek Study Area, located in the Boroughs of Carlstadt, East Rutherford, Moonachie, Rutherford, Teterboro and Woodridge in Bergen County, New Jersey, as depicted generally on the map attached as Appendix C, and any areas where contamination from the Study Area has come to be located.

S. "Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); provided, however, that "Waste Material" does not include any environmental samples taken in the course of the Scoping Activities.

T. "Work" shall mean implementation of the Scoping Activities Work Plan and any other activities Respondents are required to perform under this Settlement Agreement, except those required by Section XV (Retention of Records).

V. STATEMENT OF PURPOSE

10. In entering into this Settlement Agreement, the objectives of EPA and Respondents are: (a) to initiate scoping activities that include field and related activities that will ultimately support an RI/FS for the Site, and (b) to recover response and oversight costs incurred by EPA with respect to this Settlement Agreement.

VI. EPA's FINDINGS OF FACT AND CONCLUSIONS OF LAW

11. The Berry's Creek Study Area (hereinafter referred to as the "Site") is located in Bergen County and traverses the Boroughs of Rutherford, East Rutherford, Carlstadt, Wood Ridge, Moonachie, and Teterboro. Berry's Creek is a tidal tributary of the Hackensack River. The Berry's Creek watershed encompasses approximately 12 square miles of wetlands inside the Hackensack River watershed. The Site also contains industrial, commercial and residential properties.

12. For administrative purposes, EPA has designated the Site as Operable Unit 2 of the Ventron/Velsicol Superfund Site. In 1982 the Ventron/Velsicol Site was proposed for inclusion on the National Priorities List ("NPL"). On September 1, 1983 the Site was formally placed on the NPL, with NJDEP designated as the lead Agency for directing the investigation and cleanup of the Site.

13. The Site includes other industrial, commercial, and institutional facilities that manufactured, processed or used chemical products containing hazardous substances that may have been released, directly or indirectly, to Berry's Creek.

14. Surface water, groundwater, sediment, and/or soil contaminants found at the Site include, but are not limited to, arsenic, bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, cadmium, chlorobenzene, chloroform, chromium, copper, cyanide, dichlorobenzene, di-n-butyl phthalate, 1,2-dichlorobenzene, 1,2-dichloroethane, dieldrin, di-n-octyl phthalate, ethylbenzene, lead, mercury, methylene chloride, methyl ethyl ketone, naphthalene, nickel, petroleum hydrocarbons, phenanthrene, phenol, polychlorinated biphenyls, pyrene, selenium, silver, tetrachloroethylene, thallium, toluene, 1,2-trans dichloroethylene, 1,1,1-trichloroethane, trichloroethylene, xylene, and zinc.

15. In 2001 EPA assumed lead agency responsibility for the Site.

16. Exposure to the various hazardous substances present at the Site by direct contact, inhalation, or ingestion may cause a variety of adverse human health effects.

17. The continuing release(s) of hazardous substances present at the Site may continue to impact the Berry's Creek and Hackensack River watersheds, the environment, and surrounding residents and businesses.

18. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

19. Wastes and constituents thereof at the Site, sent to the Site, disposed of at the Site, and/or transported to the Site identified in Paragraphs 13 and 14 are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.

20. The presence of hazardous substances at the Site or the past, present or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

21. Respondents are "person[s]" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

22. Respondents are potentially responsible parties under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622. Each Respondent is a person who owns or operates a facility within the area defined as the Site; at the time of disposal of hazardous substances owned or operated a facility located within the area defined as the Site at which such disposal occurred and from which there was a release or threatened release of a hazardous substance; arranged for disposal or treatment or transport for disposal or treatment of hazardous substances at a facility located within the area defined as the Site; or accepted hazardous substances for transport to a disposal or treatment facility selected by such person within the area defined as the Site. Each Respondent therefore may be liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

23. The actions required by this Settlement Agreement are necessary to protect the public health, welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).

24. EPA has determined that Respondents are qualified to conduct the Scoping Activities within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Settlement Agreement.

VII. NOTICE

25. By providing a copy of this Settlement Agreement to the State of New Jersey ("State"), EPA is notifying the State that this Settlement Agreement is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action at the Site required by the Settlement Agreement.

VIII. SETTLEMENT AGREEMENT

26. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Settlement Agreement, including, but not limited to, all attachments to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

IX. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS

27. Selection of Contractors, Personnel. All Work performed by Respondents under this Settlement Agreement shall be under the direction and supervision of qualified personnel. EPA agrees that Environmental Liability Management, Inc. ("ELM") is qualified to undertake or supervise the activities under the Scoping Activities Work Plan. At least 30 days before another contractor, subcontractor, or laboratory is anticipated to begin a particular activity described in the Scoping Activities Work Plan, Respondents shall notify EPA in writing of the names,

titles, and qualifications of the key personnel at the contractor, subcontractor, or laboratory to be used. With respect to any proposed contractor that will be collecting or analyzing environmental samples, Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or most recent version), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001, or subsequently issued guidance) or equivalent documentation as determined by EPA. The qualifications of the key personnel undertaking the Work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. If EPA disapproves in writing of any key personnel's technical qualifications, Respondents shall notify EPA of the identity and qualifications of the replacements within 30 days of the written notice. If EPA subsequently disapproves of the replacement's technical qualifications, EPA reserves the right to terminate this Settlement Agreement and to perform the Work, and to seek reimbursement for costs and penalties from Respondents. During the course of the Scoping Activities, Respondents shall notify EPA in writing of any changes or additions in the key personnel used to carry out such Work, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

28. Respondents have designated Peter Brussock of ELM as their Project Coordinator, who shall be responsible for administration of all response actions by Respondents required by this Settlement Agreement. To the greatest extent possible, the Designated Project Coordinator or his/her designee shall be present on Site or readily available during Site Work. EPA retains the right to disapprove of the Designated Project Coordinator. If EPA disapproves of the Designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within 30 days following EPA's disapproval. Respondents shall have the right to change

their Designated Project Coordinator, subject to EPA's right to disapprove in writing. Respondents shall notify EPA 14 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Designated Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondents.

29. EPA has designated Douglas Tomchuk of the New Jersey Remediation Branch, Region II, as its Project Coordinator. EPA will promptly notify Respondents of a change of its Project Coordinator. Except as otherwise provided in this Settlement Agreement, Respondents shall send all submissions required by this Settlement Agreement by electronic mail, certified mail-return receipt requested, or by UPS or Federal Express, to the EPA Project Coordinator at:

Douglas Tomchuk
U.S. Environmental Protection Agency,
Region II
290 Broadway, 19th Floor
New York, New York 10007-1866
E-mail: Tomchuk.Doug@epa.gov

Respondents shall submit in electronic form all portions of any report or other deliverable Respondents are required to submit pursuant to provisions of this Settlement Agreement. Respondents shall submit 4 hard copies to EPA and 3 hard copies to the State of each deliverable listed in Section 3.0 of the Work Plan.

30. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's Project Coordinator shall have the authority, to be exercised consistent with the NCP, to halt any Work required by this Settlement Agreement, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Settlement Agreement shall not be cause for the stoppage or delay of Work.

31. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the Scoping Activities, as required by Section 104(a) of CERCLA, 42 U.S.C. § 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the Scoping Activities Work Plan.

X. WORK TO BE PERFORMED

32. Respondents shall conduct the Work in accordance with the provisions of this Settlement Agreement, the Scoping Activities Work Plan, CERCLA, the NCP, and EPA guidance, including, but not limited to (to the extent applicable) the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05, October 1990 or subsequently issued guidance), and guidance referenced therein, as may be amended or modified by EPA. The Scoping Activities Work Plan contains the schedule for completion of deliverables required by this Settlement Agreement.

33. Modification of the Scoping Activities Work Plan.

a. If, at any time during the Scoping Activities, Respondents identify a need for additional data to complete the objectives of the Scoping Activities, Respondents shall submit a memorandum documenting the need for additional data to the EPA Project Coordinator within 30 days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into reports and deliverables.

b. In the event of unanticipated or changed circumstances at the Site that may present an immediate threat to human health or the environment, Respondents shall notify the EPA Project Coordinator by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the Work Plan to

complete the objectives of the Scoping Activities or to modify procedures, EPA shall request in writing that Respondents modify, amend, or supplement the Scoping Activities Work Plan accordingly. Respondents shall implement the Scoping Activities Work Plan as modified, amended, or supplemented.

c. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site. Respondents reserve the right to object to any such requirement.

34. Off-Site Shipment of Waste Material. Except as provided herein, Respondents shall, prior to any off-site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to EPA's Project Coordinator. The requirements of this paragraph shall not apply to any such off-site shipments when the total volume of such shipments will not exceed 10 cubic yards.

a. Respondents shall include in the written notification the following information: (1) the name and location of the facility to which the Waste Material is to be shipped; (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondents shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

35. Meetings. Respondents shall (in person or by telephone conference if approved by EPA's Project Coordinator) make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the Work. In addition to discussion of the technical aspects of the Work, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

36. Progress Reports. In addition to the deliverables set forth in the Scoping Activities Work Plan, Respondents shall provide to EPA monthly progress reports by the 15th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Settlement Agreement during that month, (2) include all results of sampling and tests and all other data received by Respondents, unless the data has otherwise been made available to EPA, (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for the Scoping Activities, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

37. Emergency Response and Notification of Releases.

a. In the event of any action or occurrence resulting from the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Settlement Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the EPA Project Coordinator or, in the event of his/her unavailability, the Chief of the Central New Jersey Remediation Section of the Emergency and Remedial Response Division of EPA Region II by telephone (212-637-4380) of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead,

Respondents shall reimburse EPA for all costs of the response action not inconsistent with the NCP pursuant to Section XIX (Payment of Response Costs).

b. In addition, in the event of any release of a hazardous substance from the Site caused by the Work, Respondents shall immediately notify the EPA Project Coordinator, the Chief of the Central New Jersey Remediation Section of the Emergency and Remedial Response Division of EPA Region II) by telephone (212-637-4380) and the National Response Center at (800) 424-8802. Respondents shall submit a written report to EPA within 7 days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, any reporting required under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, et seq.

XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

38. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Settlement Agreement, EPA shall, in writing: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Respondents at least one notice of deficiency and an opportunity to cure within 30 days or within such longer time as specified by EPA in such notice, except where to do so would cause serious disruption to the Work or where previous submissions have been disapproved due to material defects. EPA shall not modify a submission to require, or disapprove of a submission because it does not contain, additional work beyond that required to achieve the objectives of the Scoping Activities.

39. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Subparagraph 38(a), (b), (c) or (e), Respondents shall proceed to take any action required by

the plan, report or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XVI (Dispute Resolution) with respect to the modifications or conditions made by EPA. Following EPA approval or modification of a submittal or portion thereof, Respondents shall not thereafter alter or amend such submittal or portion thereof unless directed by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Subparagraph 38(c) and the submission had a material defect, EPA retains the right to seek stipulated penalties, as provided in Section XVII (Stipulated Penalties).

40. Resubmission of Plans.

a. Upon receipt of a notice of disapproval, Respondents shall, within 30 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XVII (Stipulated Penalties), shall accrue during the 30-day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 42 and 43.

b. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA in writing. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for stipulated penalties under Section XVII (Stipulated Penalties).

c. Respondents shall proceed with implementation of the Scoping Activities Work Plan upon issuance of this Settlement Agreement, in accordance with the schedule in the Work Plan.

41. If EPA disapproves a resubmitted plan, report or other item, or portion thereof, EPA may again direct Respondents to correct the deficiencies. EPA shall also retain the right to modify or develop the plan, report or other item. Respondents shall implement any such plan, report, or item as corrected, modified or developed by EPA, subject only to their right to

invoke the procedures set forth in Section XVI (Dispute Resolution).

42. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Respondents shall be deemed to have failed to submit such plan, report, or item timely and adequately unless Respondents invoke the dispute resolution procedures in accordance with Section XVI (Dispute Resolution) and EPA's action is revoked or substantially modified pursuant to a Dispute Resolution decision issued by EPA or superseded by an agreement reached pursuant to that Section. The provisions of Section XVI (Dispute Resolution) and Section XVII (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is not otherwise revoked, substantially modified or superseded as a result of a decision or agreement reached pursuant to the Dispute Resolution process set forth in Section XVI (Dispute Resolution), stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XVII (Stipulated Penalties).

43. All plans, reports, and other items submitted to EPA under this Settlement Agreement shall, upon approval or modification by EPA, be incorporated into and enforceable under this Settlement Agreement. In the event EPA approves or modifies a portion of a plan, report, or other item submitted to EPA under this Settlement Agreement, the approved or modified portion shall be incorporated into and enforceable under this Settlement Agreement.

44. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Respondents are responsible for preparing deliverables acceptable to EPA.

XII. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION

45. Quality Assurance. Respondents shall assure that Work performed, samples taken and analyses conducted conform to the

requirements of the Scoping Activities Work Plan, any Quality Assurance Project Plan ("QAPP"), and applicable guidances identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

46. Sampling.

a. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents' behalf, pursuant to this Settlement Agreement, shall be submitted to EPA in the next monthly progress report, or otherwise made available, as described in Paragraph 36 of this Settlement Agreement. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

b. Respondents shall verbally notify EPA at least 14 days prior to conducting significant field events as described in the Scoping Activities Work Plan or the Sampling and Analysis Plan. At EPA's verbal or written request, or the request of EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected in implementing this Settlement Agreement. All split samples shall be analyzed by the methods identified in the QAPP.

c. Circumstances permitting, EPA shall verbally notify Respondents at least 14 days prior to conducting significant field events relating to the Site, other than emergency response actions or any enforcement-related events that require confidentiality. At Respondents' verbal or written request, EPA shall allow split or duplicate samples to be taken by Respondents (and their authorized representatives) of any samples collected in overseeing this Settlement Agreement or otherwise investigating the Site. All split samples shall be analyzed by the methods identified in the QAPP.

47. Access to Information.

a. Respondents shall provide to EPA, upon request, copies of all non-privileged documents and information within their possession or control or that of their contractors or agents relating to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

b. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when it is submitted to EPA, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents. Respondents shall segregate and clearly identify all documents or information submitted under this Settlement Agreement for which Respondents assert business confidentiality claims.

c. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege against disclosure recognized by federal law. If the Respondents assert such a privilege in lieu of providing documents, they shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the

document, record, or information; and 6) the privilege asserted by Respondents. However, no final documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

d. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other information evidencing conditions at the Site.

48. In entering into this Settlement Agreement, Respondents waive any objections to any data gathered, generated, or evaluated by EPA or Respondents in the performance or oversight of the Work that has been verified according to the quality assurance/quality control ("QA/QC") procedures required by the Settlement Agreement or any Sampling and Analysis Plans prepared by Respondents and approved by EPA in writing. If Respondents object to any other data relating to the Scoping Activities, Respondents shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within 30 days of the monthly progress report containing the data.

XIII. SITE ACCESS AND INSTITUTIONAL CONTROLS

49. If the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by any of Respondents, such Respondents shall, commencing on the Effective Date, provide EPA, and its representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to oversight of this Settlement Agreement.

50. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements within 60 days after the Effective Date or no fewer than 90 days before access to such

property is needed pursuant to the Scoping Activities Work Plan, whichever is later, or as otherwise specified in writing by the EPA Project Coordinator. Respondents shall immediately notify EPA if after using their best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access, unless EPA has identified the property owner as a potentially responsible party under CERCLA in connection with the Study Area. Respondents shall describe in writing their efforts to obtain access. If Respondents cannot obtain access agreements, EPA may either: (i) obtain access for Respondents or assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate; (ii) perform those tasks or activities with EPA contractors; or (iii) terminate the obligation under the Settlement Agreement that requires the access agreement in question. Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XIX (Payment of Response Costs). If EPA performs those tasks or activities with EPA contractors and does not terminate the Settlement Agreement, Respondents shall perform all other activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such activities. Respondents shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables.

51. Notwithstanding any provision of this Settlement Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XIV. COMPLIANCE WITH OTHER LAWS

52. Respondents shall comply with all applicable local, state and federal laws and regulations when performing the Scoping Activities. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-Site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-site and requires a federal or state permit or approval,

Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. Respondent may seek relief under the provisions of Section XVIII (Force Majeure) of this Settlement Agreement for any delay in performing the Work from a failure to obtain, or a delay in obtaining, any permit required for the Work, provided that Respondents have made proper, timely and complete permit application(s). This Settlement Agreement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XV. RETENTION OF RECORDS

53. During the pendency of this Settlement Agreement and for a minimum of 10 years after commencement of construction of any remedial action, each Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. With respect to records and documents relating to performance of the Work, as an alternative to each Respondent maintaining such records and documents, the Respondents collectively may preserve and retain a single set of all non-identical copies of such records and documents (including records or documents in electronic form). Until 10 years after commencement of construction of any remedial action, Respondents shall also instruct their contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

54. At the conclusion of this document retention period, Respondents shall notify EPA at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA, Respondents shall deliver any such records or documents to EPA unless a privilege is asserted. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege against disclosure recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following: 1) the title of the document, record, or

information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondents. However, no final documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

55. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. § 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XVI. DISPUTE RESOLUTION

56. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

57. If Respondents object to any EPA action or decision under this Settlement Agreement, including billings for Future Response Costs, they shall notify EPA in writing of their objection(s) within 14 days of such action (unless a longer time period is provided in or pursuant to this Settlement Agreement), unless the objection(s) has/have been resolved informally. EPA and Respondents shall have 30 days from EPA's receipt of Respondents' written objection(s) to resolve the dispute (the "Negotiation Period"). The Negotiation Period may be extended by mutual agreement of the parties. Such extension may be granted verbally but must be confirmed in writing.

58. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, an EPA management official at the Chief of the New Jersey Remediation Branch of the Emergency and Remedial Response Division, EPA Region II (hereinafter, the "Chief"), level or higher will issue a written decision, which shall be based on the administrative record of the dispute and shall be consistent with the terms and objectives of this Agreement. When feasible, Respondents shall be given an opportunity to meet with the Chief before the decision on the dispute is made. The administrative record of the dispute shall be maintained by EPA and shall consist of all correspondence and materials exchanged between EPA and Respondents during the dispute resolution process. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondents' obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever controls, and regardless of whether Respondents agree with the decision.

XVII. STIPULATED PENALTIES

59. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 60 and 61 for failure to comply with any of the requirements of this Settlement Agreement specified below, unless excused under Section XVIII (Force Majeure) or otherwise approved by EPA. "Compliance" by Respondents shall include completion of the Work under this Settlement Agreement or any activities contemplated under the Scoping Activities Work Plan or any other plan approved under this Settlement Agreement identified below, in accordance with all applicable requirements of law, and within the specified time schedules established by and approved under this Settlement Agreement.

60. For the major deliverables identified in Section 3.0 of the Scoping Activities Work Plan, stipulated penalties shall accrue in the amount of \$3,000 per day, per violation, for the first fourteen (14) days of noncompliance; \$6,000 per day, per violation, for the fifteenth (15th) day through the thirtieth (30th) day; and \$12,000 per day, per violation for all violations lasting beyond thirty (30) days.

61. For the monthly progress reports, payments pursuant to Section XIX (Payment of Response Costs), Certificate of Insurance, deliverables required by the Work Plan not listed above, or any other violations of this Settlement Agreement not specified above, stipulated penalties shall accrue in the amount of \$1000 per day, per violation, for the first fourteen (14) days of noncompliance; \$2,000 per day, per violation, for the fifteenth (15th) day through the thirtieth (30th) day; \$4,000 per day, per violation, for all violations lasting beyond thirty (30) days.

62. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 79 of Section XXI (Reservation of Rights by EPA), Respondents shall be liable for a stipulated penalty in the amount of \$250,000.

63. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XI (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (2) with respect to a decision by the EPA Management Official designated in Paragraph 58 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

64. Following EPA's determination that Respondents have failed to comply with a requirement of this Settlement Agreement, EPA may give Respondents written notification of the same and describe the noncompliance. EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.

65. All penalties accruing under this Section shall be due and payable to EPA within 30 days of Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures in accordance with Section XVI (Dispute Resolution). All payments to EPA under this Section shall indicate that the payment is for stipulated penalties, and shall be remitted via Electronic Funds Transfer ("EFT"), along with the following information, to EPA's Account as follows:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York NY 10045
Name of Party making payment
EPA Index Number: CERCLA-02-2007-2006
Site/Spill Identifier Number: 02C7
Field Tag 4200 of the Fedwire message should read "D 68010727
Environmental Protection Agency"

To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, which references the date of the EFT, the payment amount, that the payment is for stipulated penalties, the name of the Site, the case Index number, and the name and address of the party making payment to the United States as specified in Paragraph 29 and also to:

U.S. Environmental Protection Agency
26 W. Martin Luther King Drive
Cincinnati Finance Center, MS: NWD
Cincinnati, Ohio 45268

or

AcctsReceivable.CINWD@epa.gov

66. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Settlement Agreement.

67. Penalties shall continue to accrue as provided in Paragraph 63 during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

68. If Respondents fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 65.

69. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(1) of CERCLA, 42 U.S.C. § 9622(1), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 122(1) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of willful violation of this Settlement Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XXI (Reservation of Rights by EPA), Paragraph 79. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XVIII. FORCE MAJEURE

70. Respondents agree to perform all requirements of this Settlement Agreement within the time limits established under

this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, *force majeure* is defined as any event arising from causes beyond the control of Respondents or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondents' best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

71. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondents shall notify EPA orally within two (2) Working Days of when Respondents first knew that the event was likely to cause a delay. Within five (5) Working Days thereafter, Respondents shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

72. If EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will promptly notify Respondents in writing of its decision. If EPA agrees that the

delay is attributable to a *force majeure* event, EPA will promptly notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XIX. PAYMENT OF RESPONSE COSTS

73. Payments of Future Response Costs.

a. Respondents shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Respondents a bill requiring payment that includes a printout of cost data in EPA's financial management system, known as a SCORPIOS report, and a calculation of EPA's indirect costs. Respondents shall make all payments within 30 days of receipt of each bill, except as otherwise provided in Paragraph 75 of this Settlement Agreement, by remitting the amount of those costs via EFT, along with the following information, to EPA's Account as follows:

Federal Reserve Bank of New York

ABA = 021030004

Account = 68010727

SWIFT address = FRNYUS33

33 Liberty Street

New York NY 10045

Name of Party making payment

EPA Index Number: CERCLA-02-2007-2006

Site/Spill Identifier Number: 02C7

Field Tag 4200 of the Fedwire message should read "D 68010727
Environmental Protection Agency"

To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, which references the date of the EFT, the payment amount, that the payment is for response costs, the name of the Site, the case Index number, and the name and address of the party making payment to the United States as specified in Paragraph 29 and also sent to:

U.S. Environmental Protection Agency

26 W. Martin Luther King Drive

Cincinnati Finance Center, MS: NWD

Cincinnati, Ohio 45268

or

AcctsReceivable.CINWD@epa.gov

b. The total amount to be paid by Respondents pursuant to Subparagraph 73.a. shall be deposited in the Berry's Creek Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund upon completion of all response actions at or in connection with the Site.

74. If Respondents do not pay Future Response Costs within 30 days of Respondents' receipt of a bill, Respondents shall pay Interest on the unpaid balance of Future Response Costs. The Interest on unpaid Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. If EPA receives a partial payment, Interest shall accrue on any unpaid balance. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XVII (Stipulated Penalties). Respondents shall make all payments required by this Paragraph in the manner described in Paragraph 73.

75. Respondents may contest payment of any Future Response Costs under Paragraph 73 if they determine that EPA has made an accounting error or if they believe that a cost item was incurred inconsistent with the NCP. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the EPA Project Coordinator. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondents shall within the 30 day period pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 73. Simultaneously, Respondents shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of New Jersey and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to the EPA Project

Coordinator a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondents shall initiate the Dispute Resolution procedures in Section XVI (Dispute Resolution). If EPA prevails in the dispute, within 5 Working Days of the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 73. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA in the manner described in Paragraph 73. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XVI (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents' obligation to reimburse EPA for its Future Response Costs.

XX. COVENANT NOT TO SUE BY EPA

76. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondents of all obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XIX. This covenant not to sue extends only to Respondents and does not extend to any other person.

XXI. RESERVATION OF RIGHTS BY EPA

77. Except as specifically provided in this Settlement Agreement, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

78. The covenant not to sue set forth in Section XX (Covenant Not to Sue by EPA) above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

- a. claims based on a failure by Respondents to meet a requirement of this Settlement Agreement;
- b. liability for costs not included within the definition of Future Response Costs;
- c. liability for completion of the RI/FS for the Site and performance of response actions other than the Work;
- d. criminal liability;
- e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

79. Work Takeover. In the event EPA determines that Respondents have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondents may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by EPA in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XIX (Payment of Response Costs). Notwithstanding any other provision of this Settlement Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXII. COVENANT NOT TO SUE BY RESPONDENTS

80. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of the Work or arising out of the response actions for which the Future Response Costs have or will be incurred, including any claim under the United States Constitution, the New Jersey State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the costs of the Work or payment of Future Response Costs, provided, however, that this covenant not to sue does not include any claims against any federal agency, other than EPA, that may be identified as a potentially responsible party at the Site pursuant to Section 107 of CERCLA, 42 U.S.C. §§ 9607, relating to the costs of the Work or payment of Future Response Costs.

81. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 78(b), (c), and (e) - (g), but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

82. Respondents reserve, and this Settlement Agreement is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, any such claim shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a federal employee as that term is defined in 28 U.S.C. § 2671; nor shall any such claim include a claim based on EPA's selection of response actions, or the oversight or approval of Respondents' plans or activities. The foregoing applies only to claims which are brought pursuant to any statute other than CERCLA and for which waiver of sovereign immunity is found in a statute other than CERCLA.

83. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

84. Nothing in this Settlement Agreement shall be construed as a waiver by a Respondent of any right it may have to include costs incurred in implementation of this Settlement Agreement, the Work, Future Response Costs, or any other work at or in conjunction with the Site in its allowable costs for purposes of pricing under contracts with the United States, to the extent allowed by law, rule or regulation.

XXIII. OTHER CLAIMS

85. By issuance of this Settlement Agreement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents.

86. Except as expressly provided in Section XX (Covenant Not to Sue by EPA) and Section XXIV (Contribution), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

87. No action or decision by EPA pursuant to this Settlement Agreement shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIV. CONTRIBUTION

88. a. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. Section 9613(f)(2) and that Respondents are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work, and Future Response Costs. Notwithstanding such protections against contribution actions or

claims by non-parties to this Settlement Agreement, the Respondents agree that they may allocate or re-allocate any and all response costs incurred in connection with the Settlement Agreement among themselves, either consensually or through civil actions to the extent not otherwise precluded by agreement of the Respondents.

b. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Respondents have, as of the Effective Date, resolved their liability to the United States for the Work and Future Response Costs.

c. Nothing in this Settlement Agreement precludes the United States or Respondents from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and (3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

XXV. INDEMNIFICATION

89. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondents agree to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement.

The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Settlement Agreement. Neither Respondents nor any such contractor shall be considered an agent of the United States.

90. The United States shall give Respondents written notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

91. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site.

XXVI. INSURANCE

92. At least 30 days prior to commencing any On-Site Work under this Settlement Agreement, Respondents shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of 3 million dollars, combined single limit, naming the EPA as an additional insured. Within the same period, Respondents shall provide EPA with certificates of such insurance and, if requested, a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Settlement Agreement. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to

that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVII. FINANCIAL ASSURANCE

93. Within 30 days of the Effective Date, Respondents shall establish and maintain financial security for the benefit of EPA in the amount of one million dollars in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:

a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;

b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA equaling the total estimated cost of the Work;

c. a trust fund administered by a trustee acceptable in all respects to EPA;

d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;

e. annual 10-K reports for the preceding fiscal year for one or more of the Respondents that demonstrates, to EPA's satisfaction, that one or more of the Respondents satisfies the substantive financial test requirements of 40 C.F.R. § 264.143(f)(1)(i) or (ii);

f. a corporate guarantee to perform the Work provided by one or more parent corporations or subsidiaries of Respondents, or by one or more unrelated corporations that have a substantial business relationship with at least one of Respondents; including a demonstration that any such company satisfies the substantive financial test requirements of 40 C.F.R. Part 264.143(f); and/or

g. a corporate guarantee to perform the Work by one or more of Respondents, including a demonstration that any such Respondent satisfies the substantive financial test requirements of 40 C.F.R. Part 264.143(f).

94. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondents shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 93, above. In addition, if at any time EPA notifies Respondents in writing that the anticipated cost of completing the Work has increased, then, within 30 days of such notification, Respondents shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

95. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Subparagraph 93.e. or 93.f. or 93.g. of this Settlement Agreement, Respondents shall (i) demonstrate to EPA's satisfaction that the guarantor satisfies the substantive financial test requirements of 40 C.F.R. Part 264.143(f); and (ii) resubmit sworn statements conveying the financial information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, to EPA. For the purposes of this Settlement Agreement, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the current cost estimate of \$1 million for the Work at the Site, or any lesser amount determined pursuant to Paragraph 96, shall be used in relevant financial test calculations.

96. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 93 of this

Section, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondents may seek dispute resolution pursuant to Section XVI (Dispute Resolution). Respondents may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

97. Respondents may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondents may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVIII. INTEGRATION/APPENDICES

98. This Settlement Agreement and its appendices and any deliverables, technical memoranda, specifications, schedules, documents, plans, reports (other than progress reports), etc. that will be developed pursuant to this Settlement Agreement and become incorporated into and enforceable under this Settlement Agreement constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement:

"Appendix A" is the list of Respondents

"Appendix B" is the Scoping Activities Work Plan

"Appendix C" is the map of the Site

XXIX. ADMINISTRATIVE RECORD

99. EPA will determine the contents of the administrative record file for selection of the remedial action. Subject to Paragraph 47, and upon request of EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Consistent with Paragraph 47, upon request of EPA, Respondents shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Respondents shall establish a community information repository at or near the Site, to house one copy of the administrative record.

XXX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

100. This Settlement Agreement shall be effective on the date that a fully-executed copy of said Settlement Agreement is received by counsel for Respondents ("Effective Date").

101. This Settlement Agreement may be amended by mutual agreement of EPA and Respondents. Amendments shall be in writing and shall be effective when signed by EPA. EPA Project Coordinators do not have the authority to sign amendments to the Settlement Agreement. However, the EPA Project Coordinator and the Respondents' Designated Project Coordinator may by mutual agreement make minor modifications to the requirements of the Scoping Activities Work Plan, specifically modifications that do not materially or significantly affect the nature, scope, or timing of the work to be performed. Any such modifications must be in writing and signed by both Project Coordinators. The effective date of the modification shall be the date on which the letter from EPA's Project Coordinator is signed.

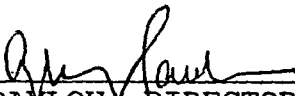
102. No informal advice, guidance, suggestion, or comment by the EPA Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of

this Settlement Agreement, unless it is formally modified. EPA Project Coordinators may in writing extend any deadline under this Settlement Agreement.

XXXI. NOTICE OF COMPLETION OF WORK

103. EPA shall review the final deliverable of the Scoping Activities Work Plan and determine whether all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including but not limited to, retention of records and payment of Future Response Costs. Upon such determination, EPA will provide written notice to Respondents. Such notice shall not be unreasonably withheld. If EPA determines that any Work has not been completed in accordance with this Settlement Agreement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents correct such deficiencies. Failure by Respondents to correct such deficiencies shall be a violation of this Settlement Agreement.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



GEORGE PAVLOU, DIRECTOR
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
Region II

DATE:

7/2/07

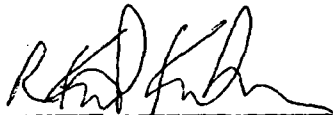
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

ABB Inc.

Name of Respondent



Signature

6/25/07

Date

R. Keith Knauerhase

Printed name of Signatory

Environmental Counsel

Director, Environmental Engineering & Support

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Air Products and Chemicals, Inc.
Name of Respondent

Wayne M. Mitchell
Signature

IS

6/19/07
Date

Wayne M. Mitchell
Printed name of Signatory

Vice President and General Manager-Performance Materials Division
Title of Signatory

**ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT
FOR RI/FS SCOPING ACTIVITIES, BERRYS CREEK STUDY AREA**

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Akzo Nobel Coatings Inc

Name of Respondent

Douglas W. Butler
Signature for Akzo Nobel Coatings

21 June 2007

Date

Douglas W. Butler

Printed name of Signatory

Senior Environmental Affairs Manager

Title of Signatory

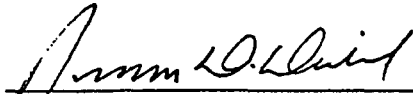
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Alcoa Inc.

Name of Respondent


Signature

6/22/07
Date

Ronald D. Dickel

Printed name of Signatory

Vice President

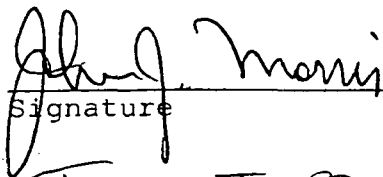
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Name of Respondent ALLIED CHEMICAL


Signature

Date 6/22/67

JOHN J. MORRIS

Printed name of Signatory

Remediation Portfolio Director

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

American Standard, Inc.
Name of Respondent

Richard F. Ricci
Signature

6/26/07
Date

Richard F. Ricci
Printed name of Signatory


Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

CBS Corporation (f/k/a Viacom, Inc., f/k/a Westinghouse Electric Corporation)
Name of Respondent

WOW
6/28/07 Signature 

June 28, 2007
Date

Eric J. Sobczak
Printed name of Signatory

Vice President & Associate General Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Browning-Ferris Industries of New Jersey, Inc.
Name of Respondent

J. White
Signature

6/25/07
Date

Jolynn White
Printed name of Signatory

Secretary
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Bristol-Myers Squibb Company
Name of Respondent

[Signature]
Signature

6/27/07
Date

DAVID J. MARLOW
Printed name of Signatory

VP FINANCE TECHNICAL OPERATIONS
Title of Signatory


FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Ber Mar Manufacturing Corp.

Name of Respondent


Signature

6/19/07
Date

Alfeed L. Guercio
Printed name of Signatory

President
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Bee Chemical
Name of Respondent

Audrey C. Friedel
Signature

6-26-07
Date

Audrey C. Friedel
Printed name of Signatory

Of counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

BECTON, DICKINSON AND COMPANY

Name of Respondent

Bruce J. Hector

Signature

6/22/07

Date

BRUCE J. HECTOR

Printed name of Signatory

ASSOCIATE GENERAL COUNSEL

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

W.A. Baum Company, Inc.

Name of Respondent

John C. Baum
Signature

6/22/07
Date

JOHN C. BAUM
Printed name of Signatory

PRESIDENT
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

**BASF Corporation on its own behalf and on behalf of
BASF Catalysts LLC (f/k/a Engelhard Corporation,
Engelhard Industries and/or Engelhard Minerals &
Chemicals)**

Name of Respondent

Nan Bernardo
Signature

June 21, 2007
Date

Nan Bernardo
Printed name of Signatory

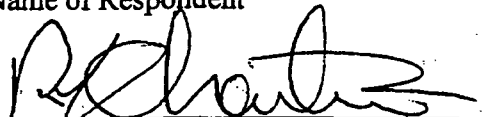
Senior Environmental Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Arkema Inc.
Name of Respondent


Signature

6-25-07
Date

Richard L. Charter II
Printed Name of Signatory


President-Legacy Site Services LLC, exclusive agent for Arkema Inc.
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Andersen Land Corp
Name of Respondent


Signature

06/22/2007
Date

Andrew M. O'Shea
Printed name of Signatory

President
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Ciba Specialty Chemicals Corporation
Name of Respondent

[Signature]
Signature

6/19/07
Date

Donc Hefferkin
Printed name of Signatory


V.P.-
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

CNA Holdings, Inc.
Name of Respondent


Signature



6/22/07
Date

Richard Ramirez
Printed name of Signatory

VP Global Remediation/Real Estate
Title of Signatory

Cognis Corporation as successor to Henkel Corporation, for itself and on behalf of Henkel Corporation, each of which entity or predecessor shall be considered a Respondent, a Party and a Signatory to the Administrative Order on Consent

For THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Cognis Corporation
Name of Respondent


Signature

6-22-07
Date

Raul Rosado
Printed name of Signatory

General Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

COLUMBIA UNIVERSITY

Name of Respondent

Deborah F. Stiles
Signature

6/20/07
Date

DEBORAH F. STILES

Printed name of Signatory

VICE PRESIDENT FOR RESEARCH OPERATIONS
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Conopco, Inc. formerly d/b/a Day-Baldwin, Inc.
Name of Respondent

AS Shakalis
Signature

6/21/07
Date

Andrew Shakalis
Associate General Counsel-
Environmental & Safety
Printed name of Signatory
as in-house counsel, acting
on behalf of Conopco, Inc.
formerly d/b/a Day-Baldwin, Inc.

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Cosan Chemical Corporation

Name of Respondent

Peter E. Thauer

Signature

June 19, 2007

Date

Peter E. Thauer

Printed name of Signatory

Vice President

Title of Signatory

FOR THE Respondent

CONSENT

The respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

JAMES B. MORAN

Name of Respondent

James B. Moran
Signature

6/27/07
Date

James B. Moran
Printed name of Signatory

Vice-President

D.F. Goldsmith Chemical & Metal Corp.

Title of Signatory

Post-It® Fax Note	7671	Date	6/27/07	# of pages	1
To	Mary Giacchino	From	Jim Moran		
Co./Dept.	McGraw-Hill	Co.	DFG		
Phone #		Phone #	847 869-7200		
Fax #	993 822 1116	Fax #	847 869-2531		

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

The Dow Chemical Company
Name of Respondent

Michael T. Kay
Signature

June 25, 2002
Date

MICHAEL T. Kay
Printed name of Signatory

ATTORNEY FOR THE DOW CHEMICAL COMPANY
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

DuPont Company
Name of Respondent

Bernard J. Reilly
Signature

6/24/07
Date

Bernard J. Reilly
Printed name of Signatory

Corporate Counsel
Title of Signatory

FOR THE Respondent

CONSENT

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Exxon Mobil Corp.

Name of Respondent

Robert W. Jackmore

Signature

6/21/07

Date

Robert W. Jackmore

Printed name of Signatory

Superintendent Area Manager

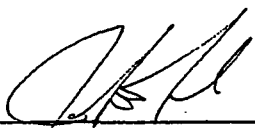
Title of Signatory

FOR THE Respondent

CONSENT

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FUJIFILM Graphic Systems U.S.A., Inc.
Name of Respondent (for Phillips & Jacobs, Inc.)


Signature

6/19/07
Date

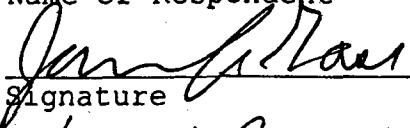
JONATHAN E. FILE
Printed name of Signatory

Corporate Secretary
Title of Signatory

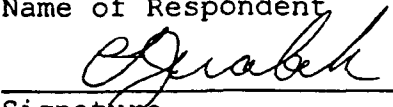
FOR THE Respondent

CONSENT

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James A. Gass
Name of Respondent

Signature
James A. Gass
Printed Name of Signatory
VP, General Counsel, Secretary
Title of Signatory

6/26/07
Date

Charles F. Jerabek
Name of Respondent

Signature
Charles F. Jerabek
Printed Name of Signatory
President and CEO
Title of Signatory

6/26/07
Date

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Gasfield Refining Co.
Name of Respondent

James Stewart
Signature

6/22/07
Date

James Stewart
Printed name of Signatory

Counsel and Authorized Agent.
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

GENERAL ELECTRIC Co.
Name of Respondent


Signature

20 June 2007
Date

Lisa A Hamilton
Printed name of Signatory

MANAGER, GE CEP
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

General Motors Corporation
Name of Respondent

Anthony P. Thrubis
Signature

June 21, 2007
Date

ANTHONY P. THRUBIS
Printed name of Signatory

ATTORNEY
Title of Signatory

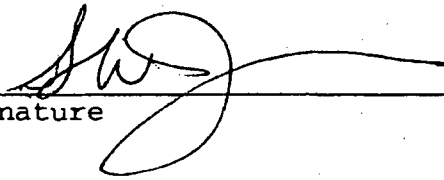
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

The Gillette Company

Name of Respondent


Signature

6/18/07
Date

Steven W. Jemison

Printed name of Signatory

Senior Vice President and Assistant Secretary

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Hexion Specialty Chemicals, Inc. (F/K/a Borden Chemical, Inc.)
Name of Respondent

William J. Denton
Signature

June 22, 2007
Date

WILLIAM J. DENTON
Printed name of Signatory

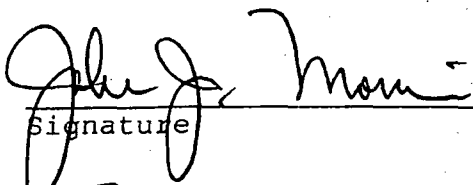
Counsel For Hexion Specialty Chemicals, Inc.
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Name of Respondent HONEYWELL INTERNATIONAL INC.


Signature

Date 6/22/07

JOHN J. MORRIS
Printed name of Signatory

REMEDATION PORTFOLIO DIRECTOR

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

HOFFMANN-LA ROCHE INC.

Name of Respondent

Signature




6-25-07
Date

FREDERICK C. KENTZ III

Printed name of Signatory

VICE PRESIDENT

Title of Signatory

Approved As To Form
LAW DEPT.
By 

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

LANXESS Corporation

Name of Respondent

Sharon Feng

Signature

22 June 2007

Date

Sharon Feng

Printed name of Signatory

Vice President Technical Services

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

LUCENT TECHNOLOGIES INC.

Name of Respondent

Ralph L. McMurry
Signature

JUNE 27, 2007
Date

RALPH L. McMURRY
Printed name of Signatory

RALPH L. McMURRY, ESQ.
Title of Signatory

COUNSEL FOR LUCENT TECHNOLOGIES INC.

LEGAL DEPT.

JUN 22 2007

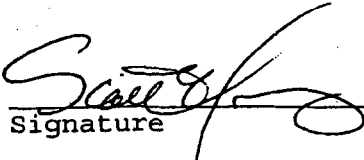
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Mack Trucks, Inc.

Name of Respondent


Signature

6/20/07
Date

Scott R. Morris

Printed name of Signatory

Director, Safety & Workplace Environment
Global & US Country Process Owner

Title of Signatory

FOR THE Respondent.

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

MALLINCKRODT BAKER, INC.
Name of Respondent

Kenneth D. Goetz
Signature

6-22-07
Date

KENNETH D. GOETZ
Printed name of Signatory

VICE-PRESIDENT
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

MALLINCKRODT, INC., a Delaware corporation
Name of Respondent

Patricia Hitt Duft
Signature

6-22-07
Date

PATRICIA HITT DUFT
Printed name of Signatory

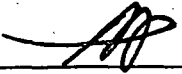
Vice President & Assistant Secretary
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

ManorCare Health Services, Inc. (fka Manor Healthcare Corp.
and current subsidiary of Manor Care of America, Inc.)
Name of Respondent



Signature

6/25/07
Date

Richard A. Parr
Printed name of Signatory

Vice President and General Counsel
Title of Signatory


FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Manor Care of America, Inc. (current subsidiary of Manor Care, Inc.)

Name of Respondent



Signature

6/25/07

Date

Richard A. Parr

Printed name of Signatory

Vice President and General Counsel

Title of Signatory

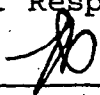
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Manor Care, Inc.

Name of Respondent



Signature

10/25/07
Date

Richard A. Parr

Printed name of Signatory

Vice President and General Counsel

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Marisol, Inc.

Name of Respondent

Warren W. Faure
Signature

6-18-07
Date

Warren W. Faure

Printed name of Signatory

General Counsel

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Monroe Chemical, Inc.

Name of Respondent

Bruce Amig
Signature

6/17/07
Date

Bruce Amig

Printed name of Signatory

Director Global Remediation Services

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Morton International, Inc.
Name of Respondent

Margaret Lattin Bazany
Signature

June 25, 2007
Date

Margaret Lattin Bazany
Printed name of Signatory

Senior Counsel, Rohm and Haas Company
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Nepera, Inc.
Name of Respondent

Peter E. Thauer
Signature

June 19, 2007
Date

Peter E. Thauer
Printed name of Signatory

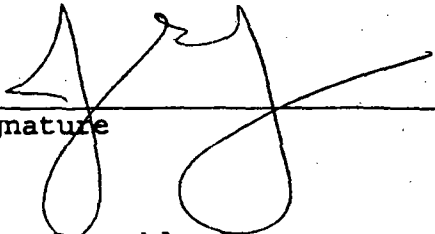
Vice President
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

New England Laminates Co., Inc.
Name of Respondent


Signature

6-22-07
Date

John Jongebloed
Printed name of Signatory

President
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

OLIN CORPORATION
Name of Respondent

Curtis M. Richards
Signature

6/25/07
Date

CURTIS M. RICHARDS
Printed name of Signatory

CORPORATE VICE PRESIDENT E, H & S
Title of Signatory

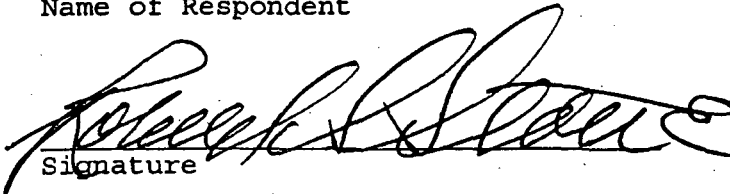
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Paxar Corporation

Name of Respondent


Signature

June 9, 2004
Date

Robert S. Stone

Printed name of Signatory

Vice President, General Counsel, Secretary

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Devon
Name of Respondent

J. K. Prairie
Signature

6/25/07
Date

J. Michael Prairie, Jr.
Printed name of Signatory

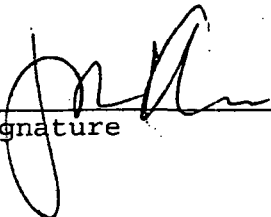
General Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

PHARMACIA CORPORATION BY its Attorney-in-Fact Monsanto Company
Name of Respondent


Signature

mms

June 25, 2007
Date

Jeffery R. Klieve
Printed name of Signatory

Director, Environmental Affairs, Monsanto Company
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Pfizer Inc

Name of Respondent

Carol A. Casazza

Signature

June 21, 2007

Date

Carol A. Casazza

Printed name of Signatory

Vice President and Assistant General Counsel

Title of Signatory

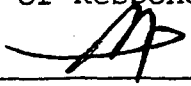
FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Portfolio One, Inc., (fka and successor in interest to Chemlime, Inc. and Almo Anti Pollution, Inc. and current subsidiary of Manor Care of America, Inc.)

Name of Respondent


Signature

6/25/07
Date

Richard A. Parr

Printed name of Signatory

Vice President and General Counsel

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

PSEG Fossil, LLC

Name of Respondent

R. Edwin Selover
Signature

6/21/07
Date

R. Edwin Selover

Printed name of Signatory

Executive Vice President, General Counsel

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Revlon Consumer Products Corporation
Name of Respondent

[Signature]
Signature

6/22/07
Date

Kenneth Ippolito
Printed name of Signatory

VP - Asst. General Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Rohm and Haas Company
Name of Respondent

Audrey C. Friedel
Signature

6-26-07
Date

Audrey C. Friedel
Printed name of Signatory

Of counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Robert Rossomando ^{For} Pan Technology Inc.
Name of Respondent

Robert Rossomando
Signature

6/24/07
Date

Robert Rossomando
Printed name of Signatory

President
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Siegfried (USA) Inc.

Name of Respondent



Signature

June 19, 2007

Date

Thomas G. Strauss

Printed name of Signatory

Chief Financial Officer

Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

SI Group, Inc.

Name of Respondent


Signature

June 22, 2007
Date

William A. Scheffer

Printed name of Signatory

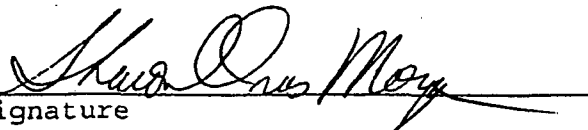
Vice President Performance Resins Division
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Simon Wrecking Company, Inc.; Simon Resources, Inc.; and Midstate Trading Co.
Name of Respondent


Signature

June 25, 2007
Date

Sharon Oras Morgan
Printed name of Signatory

Attorney for Simon Wrecking Company, Inc.; Simon Resources, Inc.; and
Title of Signatory Midstate Trading Co.

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

SmithKline Beecham Corporation
Name of Respondent

Donald F. Parman
Signature

June 19, 2007
Date

Donald F. Parman
Printed name of Signatory

Vice President & Secretary
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Spectrum Brands (o/b/o Rayovac Corp.)
Name of Respondent

Tracy S. Wrycha
Signature

6/18/07
Date

Tracy S. Wrycha
Printed name of Signatory

DIP - NA Legal Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

SPX CORPORATION

Name of Respondent

Michael A. Bogdonoff
Signature

6-25-07
Date

MICHAEL A. BOGDONOFF
Printed name of Signatory

ATTORNEY FOR SPX CORPORATION
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Sumitomo Machinery Corp of America
Name of Respondent

James D. Solomon
Signature

6/21/07
Date

James D. Solomon
Printed name of Signatory

VP / CFO
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

SUN CHEMICAL CORPORATION

Name of Respondent

Melvin M. Cox
Signature

June 27, 2007
Date

Melvin M. Cox

Printed name of Signatory

Sr. Vice President & General Counsel


Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

TATE AND LYLE INGREDIENTS AMERICAS, INC.
(F/K/A A.E. STALEY MANUFACTURING CO.)
Name of Respondent


Signature

6/22/07
Date

JOHN R. HOLINGER
Printed name of Signatory

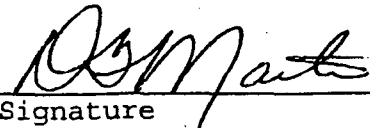
ATTORNEY
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Tennessee Gas Pipeline Company (f/k/a Tenneco, Inc.)
Name of Respondent

SJM 
Signature

6/20/07
Date

Daniel B. Martin
Printed name of Signatory

Senior Vice President
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

United Technologies Corporation on behalf of Inmont Corporation
Name of Respondent

W.F. Leikin
Signature

June 21, 2007
Date

William F. Leikin
Printed name of Signatory

Assistant General Counsel
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

University of Minnesota

Name of Respondent

RHP Putzenreuter
Signature

6/25/07
Date

RICHARD H. PUTZENREUTER
Printed name of Signatory

Vice President & CFO
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Union Carbide Corporation

Name of Respondent

Michael T. Ray
Signature

June 25, 2007
Date

MICHAEL T. RAY
Printed name of Signatory

ATTORNEY FOR UNION CARBIDE CORPORATION
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

VOP LLC

Name of Respondent

John J. Morris

Signature

6/22/07
Date

JOHN J. MORRIS

Printed name of Signatory

Remediation Portfolio Director

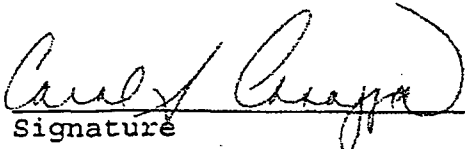
Title of Signatory

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Warner-Lambert Company LLC.
Name of Respondent


Signature

June 21, 2007
Date

Carol A. Casazza
Printed name of Signatory

Vice President and Assistant General Counsel
Title of Signatory

of Pfizer Inc
(parent company of
Warner-Lambert Company LLC)

Berry's Creek - N.J.

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondent's incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

WYETH HOLDINGS CORPORATION (f/k/a AMERICAN CYANAMIDE COMPANY)
Name of Respondent

Charles G. Meyer
Signature

6-25-07
Date

THOMAS E. MEEVAULT
Printed name of Signatory

COUNSEL
Title of Signatory

APPENDIX A
List of Respondents

1. ABB Inc.
2. Air Products and Chemicals, Inc.
3. Akzo Nobel Coatings Inc.
4. Alcoa Inc.
5. Allied Chemical
6. American Standard, Inc.
7. Andersen Land Corp.
8. Arkema Inc.
9. BASF Corp.
10. W.A. Baum Company, Inc.
11. Becton, Dickinson and Company
12. Bee Chemical
13. Ber Mar Manufacturing Corp.
14. Bristol-Myers Squibb Company
15. Browning-Ferris Industries of New Jersey, Inc.
16. CBS Corporation
17. Ciba Specialty Chemicals Corporation
18. CNA Holdings, Inc.
19. Cognis Corporation
20. Columbia University
21. Conopco, Inc.
22. Cosan Chemical Corporation
23. D.F. Goldsmith Chemical & Metal Corp.
24. The Dow Chemical Company
25. Dupont Company
26. ExxonMobil Corp.
27. Fujifilm Graphic Systems U.S.A., Inc.
28. James A. Gass
29. Garfield Refining Co.
30. General Electric Co.
31. General Motors Corporation
32. The Gillette Company
33. Hexion Specialty Chemicals, Inc.
34. Honeywell International Inc.
35. Hoffmann-La Roche Inc.
36. Charles F. Jerabek
37. Lanxess Corporation
38. Lucent Technologies Inc.
39. Mack Trucks, Inc.
40. Mallinckrodt Baker, Inc.

41. Mallinckrodt, Inc.
42. ManorCare Health Services, Inc.
43. Manor Care of America, Inc.
44. Manor Care, Inc.
45. Marisol, Inc.
46. Monroe Chemical, Inc.
47. Morton International, Inc.
48. Nepera, Inc.
49. New England Laminates Co., Inc.
50. Olin Corporation
51. Paxar Corporation
52. Permacel

53. Pharmacia Corporation
54. Pfizer Inc.
55. Portfolio One, Inc.
56. PSEG Fossil, LLC
57. Revlon Consumer Products Corporation
58. Rohm and Haas Company
59. Robert Rossomando
60. Siegfried (USA) Inc.
61. SI Group, Inc.
62. Simon Wrecking Company, Inc.
63. SmithKline Beecham Corporation
64. Spectrum Brands
65. SPX Corporation
66. Sumitomo Machinery Corp. of America
67. Sun Chemical Corporation
68. Tate and Lyle Ingredients Americas, Inc.
69. Tennessee Gas Pipeline Company
70. United Technologies Corporation
71. University of Minnesota
72. Union Carbide Corporation
73. UOP LLC
74. Warner-Lambert Company LLC.
75. Wyeth Holdings Corporation

APPENDIX B

**SCOPING ACTIVITIES WORK PLAN
BERRY'S CREEK STUDY AREA (BCSA)
REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

May 23, 2007

**Prepared for:
BCSA Cooperating PRP Group**

**Prepared By:
Environmental Liability Management, Inc.**

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Figure 1: Berry's Creek Study Area Map

1.0 INTRODUCTION – OVERVIEW OF BCSA

The Respondents to the USEPA Administrative Settlement Agreement and Order on Consent (Settlement Agreement) have agreed to conduct RI/FS scoping activities for the Berry's Creek Study Area (BCSA). BCSA is defined in the USEPA Framework Document (2005a) as *"Berry's Creek and associated tidal and non-tidal tributaries and wetlands, and the upland areas that combined together comprise a 12.1 square mile watershed"* (See Section 3.1.4 for more detailed definition of the BCSA). This Scoping Activities Work Plan (SAWP) describes the nine scoping tasks that the Respondents will conduct pursuant to the Settlement Agreement.

1.1. Management Principles

Given the long development history, high density of infrastructure and the other complexities of the BCSA, some of the primary management principles and factors for a large scale (watershed/landscape level) investigation are identified up front to provide focus throughout the Scoping Activities and subsequent RI/FS. These management principles include the following:

- National Contingency Plan (NCP) (Section 300.430) – The purpose of the Remedial Investigation/Feasibility Study (RI/FS) is to assess site conditions and evaluate alternatives to the extent necessary to select a remedy. An RI is to collect the data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives, while the primary objective of the FS is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision-maker and an appropriate remedy selected. The FS may address a specific site problem or the entire site. Development of alternatives is to be fully integrated with the site characterization activities of the RI.
- RI/FS Guidance (1988) – This guidance expands upon the process provided in the NCP, for example, describing and illustrating the relationship of the phases of the work and the integration of the concurrently conducted RI and FS (Figures 1-1 and 2-4 of the guidance).
- Surface water is a key medium because of the large ratio of tidal prism volume to surface water runoff volume within the BCSA, and its controlling influence on contaminant mobility,

transport, receptor exposure points, and biouptake potential, and its influence on the effectiveness and feasibility of remedial action alternatives (USEPA, 1985).

- Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (2005) – This guidance expands upon the RI/FS guidance in relation to sediments and builds on the Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites (OSWER Directive 9285.6-08, 2002). Emphasis is placed on:
 - the importance of sound Conceptual Site Models (CSMs);
 - the importance of source/hot spot control;
 - a phased approach to site characterization, remedy selection and remedy implementation;
 - consideration of background concentration in urban watersheds;
 - optimization to achieve the most resource-efficient sampling and analysis design;
 - comparative net risk reduction in the remedy selection process;
 - encouraging the use of an adaptive management approach, especially at complex sediment sites; and
 - consideration of separating the management of source areas with the most elevated concentrations of chemicals of potential concern (COPCs) from other, less concentrated areas.

1.2. Purpose of BCSA RI/FS Study and Scoping Activities

The purpose of the BCSA RI/FS study is to develop the information needed to support an evaluation of remedial alternatives that mitigate potential risks associated with the biouptake, fate and transport of chemicals from historical and on-going sources of hazardous substance releases from various facilities, while taking into account the other sources of chemical and non-chemical stressors and relevant background conditions.

1.2.1. Purpose of Scoping Activities

The purpose of the scoping activities is to further advance the understanding of the Study Area to support the completion of preliminary CSMs and the refinements of specific questions that must be addressed by the BCSA RI/FS in order to achieve its purpose.

1.3. Study Area Background and Setting Overview

The Framework Document provides a detailed description of the BCSA as *"the water body known as Berry's Creek including Berry's Creek Canal and the natural course of Berry's Creek; all tributaries to Berry's Creek from its headwaters to the Hackensack River; and wetlands that are hydrologically connected to Berry's Creek and/or its tributaries (Figure 1-1). The Berry's Creek Study Area also includes upland properties in Berry's Creek Watershed (as potential sources of contamination to the creek, but not for the purpose of detailed investigations of the upland areas themselves). Tidal portions of the Hackensack River and adjacent areas will also be studied, as necessary, to evaluate the ecological relationships and exchanges of contamination between these areas and the Berry's Creek Study Area. The boundary of the Berry's Creek Study Area is marked in orange in Figure 1-1."*

As a result of this landscape level definition, the history of the BCSA is significantly different from a traditional upland CERCLA site where the site use history is confined to specific properties or parcels. The history of the Berry's Creek Study Area includes not only the history of the water bodies and wetland areas, but the numerous developed properties and infrastructure features throughout the watershed. Overall, the history of the Study Area comprises a subset of the history of the Hackensack Meadowlands.

Historically, the BCSA consisted of a wide range of features, including a tidal creek and tributaries, wetland areas, white cedars swamps and wooded upland areas. However, over time various human and natural influences within the Study Area have modified the physical, chemical and biological template of the Study Area. Some of the dominant features of the BCSA that are taken into account in this SAWP include:

- Highly-urbanized watershed with ongoing redevelopment, including Brownfields projects along the perimeter and crossing the Berry's Creek waterway and wetlands.
- Extensive filling of floodplain and wetlands with approximately 1,525 acres of wetlands remaining in the BCSA (based on GIS mapping of the Meadowlands).
- Extensive urban runoff and storm and tide flow management, including tide gates.

- Well-mixed estuary with proportionately small freshwater input in relation to tidal volume.
- Proximity to habitats utilized by Threatened and Endangered Species elsewhere in the Meadowlands.
- Ongoing discharges subject to NJPDES.
- At least three historical Publicly Owned Treatment Works (POTWs) (limited treatment and industrial waste), of which two operated up to the early 1990s in the BCSA.
- Three CERCLA sites and numerous non-CERCLA industrial sites including RCRA and ISRA regulated facilities.
- Large landfills built into and on the marsh.
- Connection to Hackensack River – a well-mixed estuary with reduced freshwater flow and sediment from upstream (due to Oradell Dam and water diversion) and dominance of the tidal flow up the river and into the BCSA

2.0 PROJECT PLANNING AND SCOPING (RI/FS GUIDANCE, 1988, SECTIONS 2.1 AND 2.2)

The project planning overview presents an initial determination of the decisions to be made (study questions to be answered), identifies the type and quality of the data quality objectives needed to support those decisions and supports the preparation of project plans to document methods and procedures.

2.1. Summary of Scoping Work in Framework Document

The Framework Document initiated many of the scoping activities, including compilation of many of the previous studies and associated data. In addition, a list of study area questions was generated.

Two of the tasks that were not completed included: (1) compilation, mapping and analysis of previous data and (2) the preparation of Conceptual Site Models. These tasks are a major part of the scoping activities included in this SAWP.

2.2. Criteria for Selection of Scoping Work Activities

The Project Coordinator and Technical Committee used several criteria to develop a "short list" of potential 2007 projects to meet EPA's and the Group's needs. Those criteria included: (i) work that is contemplated in the EPA Framework Document that, if completed in 2007 or early 2008, would greatly assist in the preparation of the detailed RI/FS Work Plan; (ii) work that can be completed without establishing detailed quality assurance documents¹ and thereby avoiding the usual long timeframes associated with their review and approval; (iii) generate physical data and compile historical chemical data that could begin to identify concentration trends in surface water, sediment or biota; and (iv) work that can be completed or initiated to yield information/data to support completion of detailed Conceptual Site Models to guide the Work Plan development.

Using these criteria, the Project Coordinator and Technical Committee identified nine potential 2007-2008 tasks that were discussed preliminarily with EPA. Eight of these tasks were intended to aid in development of a set of Conceptual Site Models (CSMs) that will present a technical perspective on the primary factors that will influence fate and transport analysis, risk assessments and the identification and evaluation of remedial alternatives for the Study Area. Based on discussions with the USEPA, draft submittals and comments from the USEPA (with input from the NJDEP and other agencies), the nine tasks are presented in this SAWP.

3.0 PROJECT PLANNING (SCOPING ACTIVITIES AND DELIVERABLES)

The SAWP presents a combination of field activities and non-field activities that will support development of a set of CSMs. These CSMs will enhance the overall quality of the future RI/FS Work Plan. Deliverables will include the mapping of the study area, which will provide a base for data analysis and planning going forward. Many elements of these tasks are iterative, in that they would be further refined during the RI/FS, and all are work elements contemplated by the Framework Document. The process of scheduling and submitting deliverables to the USEPA is detailed in Section 4.0.

¹ The exception to this criterion is the methods development work, which will extend into 2008.

3.1. Task 1 – Physical Template Characterization

The physical template is the base of the conceptual site model upon which the chemical and biological elements are structured. As part of these scoping activities, there are four components of survey work: bathymetric, side-scan sonar, geophysical and topographic.

3.1.1. *Bathymetric and Sonar*

The bathymetric survey will provide a detailed topographic survey (0.5 foot or smaller) of the bottom profile (100 feet between survey lines) throughout the study area, to the extent practicable using side-scan sonar and conventional surveying techniques. Benchmarks and navigational control points will be installed along Berry's Creek to verify the accuracy of the navigation. Spot elevations will be collected as a method of quality control to check bottom elevation measurements. The details of the survey procedures will be provided in a SAWP Addendum following the selection of a contractor.

Bathymetric data will be plotted as cross-sections of the creek and will provide information on the configuration of the creek bottom, location of the thalweg, bank slope, top of bank and two feet past the top of bank. Water depth will also be interpolated between each bathymetric point to create a bathymetric surface, which will provide an approximated three dimensional view of Berry's Creek bottom and identify submerged features.

Side-scan sonar will map the presence/absence of submerged debris, potential archeological artifacts that are readily apparent, and will assess sediment texture. The side-scan sonar survey will be conducted along the main channel of Berry's Creek, its tributaries, and the Berry's Creek Canal. Manual probing will be used where the waterway size excludes access of the side-scan sonar.

Acoustic imagery will be obtained along longitudinal survey lines parallel to the course of Berry's Creek and Berry's Creek Canal. Bank-to-bank side-scan survey coverage will be obtained by running multiple survey lines with overlapping coverage. The surveys will be conducted using a high-resolution, dual frequency, side-scan sonar system. Spacing between survey lines will ensure that imagery overlaps. Visual characterization of sediments will occur during the surveys.

3.1.2. *Geophysical*

Surface sediment samples will be collected and analyzed for grain size to confirm side-scan sonar data and tie into the topographic analysis (3.1.1.3).

To validate composition of the soft substrate mapped by the side-scan sonar, approximately 50 to 70 samples for particle size analysis will be collected from representative sediment areas over the survey area in Berry's Creek, Berry's Creek Canal and major tributaries. The number of samples will vary depending on the variability of the substrate indicated by the side-scan sonar. Based on analysis of the initial samples in comparison to the sonar data, the number of samples may be adjusted, if-needed, to verify the number and composition of the areas that are distinct based on the sonar mapping. Additional geophysical surveying needs (i.e. sub-bottom profiling) will be evaluated following initiation of the topographic, bathymetric, and corresponding particle size analysis data.

3.1.3. *Topographic*

The topographic survey would be initiated this spring if this can occur prior to spring vegetation leaf out. Aerial photography will be completed during low tide leading to an initial base map with 2 foot contour intervals over the wetlands, watercourses and upland areas immediately surrounding the wetlands and watercourses of the BCSA. Resolution of the aerial photography will support refinements to 1 foot contour intervals, where relevant, following the completion of the other survey elements (see above). Further refinement to 0.5 foot contour intervals would require intensive land surveying in the field due to the extensive and dense *Phragmites*. The need for 0.5 foot contour intervals should be evaluated during the RI/FS process, in particular in relation to whether more detailed survey information is needed to support remedial alternatives screening and detailed analysis.

3.1.4. *Deliverables*

Deliverables for the physical template characterization will include:

- A topographic contour map of the BCSA wetlands, watercourses and upland areas immediately surrounding to the wetlands and watercourses.

- A hydrographic map and cross-sections of the survey area compatible with the land surveys conducted.
- A side-scan sonar mosaic image of the survey area with a list of targets (debris, wrecks, anthropologic features, etc.).
- Surface sediment texture maps based on the side-scan sonar images with a confirmation of the sediment types based on grab sampling.
- The sonar images and texture maps will be accompanied by laboratory reports for the confirmation sample grain size data. A brief text report will describe the sediment sample correlation to the sonar images.
- GIS-compatible format (e.g. shape files) with the pertinent metadata, projection and datum.

These materials will provide baseline images and data that can support development of the RI/FS Work Plan and serve as a framework for future images and analysis of data during the RI/FS process.

3.2. Task 2 – Aerial Photograph Analysis

Current and historic aerial photographs will be obtained for the entire available period of record. The current aerial photograph will be generated as part of Task 1 or using the most recent available year if the aerial photography for topography mapping (Task 1) is delayed to the fall. Aerial photographs from previous years will be selected to bracket key events of interest (identified as part of Task 5).

Using these aerial photographs and commonly applied methods of aerial photograph interpretation (Howe, 1960 and more recent guidance), information will be compiled related to factors such as filling, flow patterns, sediment deposition, channel creation, natural channel movements, tide gate placement, POTW construction and removal, road crossings and landfill development.

3.2.1. Channel/Dike Construction and Alteration History

The wetlands history in the Meadowlands has been one of filling and manipulation for over 150 years with approximately 1,525 acres remaining in the BCSA. Flow patterns have been changed to facilitate drainage and development, improve agriculture, control flooding, manage vegetation, control mosquitoes and as a result of increased development and transportation improvements. To track and document these changes, the aerial photographs will be evaluated in a sequential

comparison to produce a record of the changes over time for each segments of the study area (see Task 4 description of segments). In addition to the changes in the location and size of channel/dike/drainage features, constrictions in the flow due to filling and construction of structures will be identified.

3.2.2. *Channel/Sediment Stability Analysis*

The past and current channel and sediment stability is of particular interest in the BCSA because, based on existing data, chemicals from numerous sources have accumulated over time in the sediments. Similar to the channel construction and alteration history, the channel/sediment stability will be evaluated in a sequential comparison to better understand bank location changes, channel movement within the banks, and sediment stability among channels of varying size within the BCSA. Self-formed channels will be distinguished from those that were constructed based on the preceding channel construction history analysis. In addition, to the extent readily feasible, the analysis will attempt to determine if a channel disturbance at one point has any measurable effect on the nearby channel structure. Analysis will also attempt to identify any changes due to major storm events.

Bedform structures apparent in the aerial photographs will be mapped and compared over time in relation to changes in the waterways.

3.2.3. *Landfill Creation and Development*

Solid waste management practices for the surrounding communities and New York City have filled in large sections of the Meadowlands. A combination of small and large landfills has been created over time throughout the BCSA. Most of these landfills were unregulated as to what they accepted and material disposal methods, compared with current waste management practices.

Comparative aerial analysis will assist in understanding the history of these disposal operations in wetland areas and their potential relationship to contaminants and Areas of Concerns/Hot Spots in the BCSA, and the progressive buildup of these areas (and associated roadways in the wetlands). Results of the analysis will be used to refine future sampling locations, depths and target parameters.

3.2.4. Deliverables

The analysis of aerial photographs will be summarized in text analysis, summary tables, and large plates illustrating the relevant changes to major features over time for each segment of the BCSA. Based on this analysis, the value of digitizing relevant historical imagery to refine the resolution and scaling as part of the development of the RI/FS Workplan will be considered. However, the Task will capture the necessary information, files, and documents to digitize images whenever this effort should become necessary. The results of this task and any associated additional work would be incorporated into the RI/FS Work Plan.

3.3. Task 3 – Study Area Reconnaissance (Range of Conditions)

The BCSA is a large site with variable conditions from the headwaters of the Creek and its tributaries (e.g. non-tidal, freshwater) to the Hackensack River (tidal, brackish). The BCSA is also subject to correspondingly variable seasonal conditions and changing water conditions, including:

- Spring tides;
- Neap tides;
- Storm tides and peak discharges associated with weather systems; and
- Combinations of these events.

To take these variations into account in the CSMs and the RI/FS, direct observations of a range of conditions must be made to guide development of sampling strategies and methods that will ensure representative data are collected from the key locations.

Three comprehensive site visits will be conducted to record conditions in spring, summer and fall. Each site tour will include stops at approximately 25 locations in the BCSA where the conditions will be documented with a representative photograph(s) and completion of written general and location specific survey forms (Attachment 1) that characterize the conditions and in particular note evidence of releases (such as, oil deposits, substrate discoloration, or proliferation of algal or filamentous bacterial growth). In addition human activity in and around the waterways will be noted. One of the three site tours will include making observations from a boat on the waterways of Berry's Creek.

If opportunities are presented to conduct additional site visits to accomplish the tasks outlined in this SAWP, the location-specific observation forms (attachment 1) will be completed to document important information.

Two additional site tours will be conducted during more extreme conditions; a storm-driven high tide event and a high precipitation event (i.e., greater than two inches of rainfall in a 24-hour period). Flow conditions and patterns will be observed and compared with non-storm periods. In particular, sediment erosion and deposition patterns will be noted during the event and during the subsequent non-storm period.

3.3.1. Deliverables

A complete photograph log and the survey forms will be included in the RI/FS Work Plan as an attachment. Sampling strategies, locations and methods will be refined based on the observations.

3.4. Task 4 – Develop Water Budgets

Based on the definition provided in Section 1.3, the BCSA RI/FS constitutes a watershed study that emphasizes the connections of the lowland marsh wetlands to the uplands and the connection with the large tidal river downstream. The primary measure of these connections is the water balance; defined in 1944 by Thornthwaite (1955, 1957) to refer to the balance between the income of water from precipitation and snowmelt and the outflow of water by evapotranspiration, ground water recharge and streamflow. From this approach, a water budget can be calculated for a sub-basin or the entire watershed (Dunne and Leopold, 1978). However, the water balance equation must be modified in watersheds containing an estuary because the inputs and outputs of the watershed may be controlled as much or more by the daily tidal flow, especially for a relatively small watershed connected to a much larger tidal river such as the Hackensack (USEPA, 1985; Day et al., 1989).

In the BCSA, the water budget changes throughout the six to seven miles of Berry's Creek that are influenced by tidal fluctuations to varying degrees depending upon distance from the Hackensack River and the geomorphology of each segment of the BCSA. Consequently, the various segments of the BCSA are known to have differing water budgets (NJDEP, 1983).

Understanding these differing dynamics is key to understanding the fate and transport of sediment throughout the study area and in characterizing the physical-chemical template for key parameters such as salinity, dissolved oxygen, suspended solids and dissolved organic matter. Correspondingly, most ecological receptors of concern will be distributed in relation to these key parameters, as well as COPCs.

3.4.1. *Distinguish Sub-Basins and Discrete Segments*

At least eight distinct Berry's Creek segments can be identified on a preliminary basis based on their position in relation to the non-tidal uplands, the Hackensack River, constrictions in flow due primarily to roads and past wetlands filling, and the presence of tide gates.

1. Hackensack River at the confluence with Berry's Creek and Berry's Creek Canal
2. Berry's Creek Canal - Hackensack River to Route 3 Bridge (Oritani Marsh)
3. Lower Berry's Creek - Hackensack River to Culvert at Berry's Creek Canal
4. Route 3 overpass to Paterson Plank Road Bridge (Walden Swamp and Ackerman's Creek)
5. Peach Island Creek from the confluence with Berry's Creek
6. Paterson Plank Road Bridge to West Riser Ditch Tide Gate (Eight Day Swamp and Never Touch Creek)
7. East Riser Ditch
8. West Riser Ditch

Each of these segments and their associated sub-basin upland area will be evaluated separately, in combination, and all of them combined as a whole. This approach is consistent with the hierarchical structure of natural and technoecosystems (human-dominated), especially where the largest unit under evaluation is a landscape or watershed level unit (Odum and Barrett, 2005). Existing data from reports/studies will be compiled and summarized by segment. As appropriate, based on the further analysis, the segment definitions may be revised to reflect the site conditions. The analysis of the entire system as a whole will take into account the key segment level processes and the emergent properties associated with the interaction of segments under the range of conditions reasonably anticipated in the watershed.

Tide gate locations, management practices and repair schedules will be determined, as well as evaluated in relation to their influence on baseflow conditions and storm flow/tides. Tide gate locations will be accurately shown on the site maps (See Task 1).

3.4.2. Preliminary Hydrodynamic Analysis

There are two major objectives of this subtask:

- Determine an initial estimate of relative ratio of freshwater runoff to tidal flows from the Hackensack River for each study segment.
- Preliminarily calculate the flushing time required to transport a particle from the several segments within the BCSA estuary (See Chapter 6 in Volume II, EPA, 1985).

Usually, but not always, a transportable particle will move from the headwater areas seaward to the mouth of an estuary. However, it is recognized (p. 169, Chapter 6 in Volume II, EPA, 1985 and elsewhere) that it is possible to have a net upstream flow in individual embayments of an estuary where freshwater inflows are small and evaporation/evapotranspiration exceeds freshwater inflow. Thus, net flow can be upstream during a portion of the year.

Such may be the case in Berry's Creek; therefore the potential/duration of net upstream flow requires careful consideration because of its substantial influence on the fate and transport assessment and the evaluation of whether empirical descriptions of flow, analytical modeling or numerical modeling should be employed.

Estimates of upland runoff and ground water discharge to the estuary will be made using available streamflow data and calculations based on the size of the upland area, and percentages of various land covers. Tidal flows per segment will be estimated using previous studies and the bathymetric and survey data (Table 1). Precipitation data will be drawn from local sources for the past 30 years. Evapotranspiration will be estimated based on the acreage of open water and tidal wetlands and literature values that are derived from similar climate areas.

To complete this work, the BCSA Group may require the assistance of a specialty contractor in water budgets and estuarine hydrology/sedimentology.

3.4.3. Deliverables

The results of this task will be a set of calculations that preliminarily describe the flow dynamics (freshwater volumes, tidal volumes, preliminary flushing rates) for each segment and the BCSA as a whole. These data can be incorporated in the RI/FS Work Plan and used to develop the

surface water monitoring program, determine modeling needs, preliminarily assess fate and transport and evaluate the size and distribution of any potential effects of sediment disturbances in the various portions of the Study Area. Upon completion of this analysis, the BCSA Group may consider other methods to refine the results and their applicability to the fate and transport analysis such as a tracer study.

3.5. Task 5 – Data Compilation and Analysis

An abbreviated evaluation of historical data was provided in the Framework Document (Sections 3.2 and 6.3 of the Framework Document). Hard-copy reports from various sources were reviewed for relevant data and preliminary data base of historical records compiled. Based on the BCSA Group's initial review of the materials in the Framework Document, the BCSA Group concurs with the USEPA that much more perspective can be gained from further analysis of the available surface water, sediment and biotic data. Analysis of NJPDES permits, searchable databases of relevant existing wells and spills/releases in the watershed, and other relevant documents and information sources regarding available surface water, sediment and biotic data will be initiated. However, detailed evaluation of information from these sources will occur during the RI/FS rather than the scoping activities.

3.5.1. Subtasks

The following subtasks are scoped related to data compilation and analysis:

- (1) Complete the file reviews for relevant data at the USEPA, NJDEP, the Meadowlands Environmental Research Institute (MERI) and any other relevant sources of additional data that may be identified;
- (2) Conduct a data usability assessment of historic data using relevant guidance, such as USEPA (1990) which recognizes that data are almost always useable as long as the uncertainty in the data and its impact on the confidence of risk assessment or other use is thoroughly explained;
- (3) Compile detailed records of potential sources, to the degree practicable, based on available data compilation and analysis;
- (4) Prepare more complete plots of the most representative data for surface water and sediment than provided in the Framework Document, based on figures developed as part of Task 1;

- (5) Evaluate the long term mapping needs and available GIS systems, such as the NJDEP and MERI systems (coordinating with MERI, to the extent practicable);
- (6) Initiate trend analysis (surface water, sediment and biota) of select COPCs and conventional parameters along the Berry's Creek surface water profile (headwaters to Hackensack River) and evaluate trends in surface water, surface sediments and biota at particular locations over time, to the extent feasible.

3.5.2. Deliverables

Completion of Task 5 will result in a better understanding of the amount and quality of existing information, as well as a more detailed analysis of the distribution of available data and presentation of up to date base maps for select COPCs (to the extent possible); a data trend analysis with supporting tables and figures; and specific proposals for data management and data mapping. All of these materials will be drafted so that they can be incorporated into the RI/FS Work Plan.

3.6. Task 6 – Reference Area Identification

The entire Hackensack Meadowlands including the BCSA has been subjected to three centuries of human use and alteration (Marshall, 2004 and references therein). It remains one of the most urbanized areas in the world. Hackensack River flows, salinity, sediment loading, and sediment transport have been altered dramatically by Oradell Dam/Reservoir and the large volume of water diverted from the river for human use. Storm water runoff and sewage management have been and remain major sources of ecological stressors throughout the Meadowlands (Marshall, 2004 and references therein).

The history of disturbance and impacts of urbanization presents particular challenges in identifying suitable local reference sites and more specific reference information (Stoddard 2006 and USEPA 1997 and references therein). Reference area information is needed as a line of evidence in the determination of what stressors caused particular impacts and what expectations are reasonable for site restoration or enhancement after sources and contaminant remedies are implemented, given the unavoidable impacts of urbanization and other stressors. The process of integrating reference area information into the RI/FS will be completed in a manner consistent with USEPA guidance (USEPA, 1997; USEPA, 1989).

Due to its complicated hydrology (an anticipated outcome of Task 4) and segmentized gradient of environmental conditions (i.e., salinity, dissolved oxygen, etc.), several small reference sites may be more representative of the range of conditions in the BCSA, consistent with USEPA guidance (Stoddard 2006 and USEPA 1997 and references therein). Consequently, reference area identification will require a substantial effort that combines review and analysis of relevant existing data for the BCSA and other locations in the Meadowlands, and possibly in comparable areas within nearby similar watersheds such as the Delaware River estuary system.

3.6.1. Selection Process

The reference area identification process will include:

- Review of existing reports and positions of various agencies (possible meeting) in files at the USEPA, NJDEP, NOAA, USFWS, USGS and MERI).
- Literature analysis and the incorporation of the available results of the preceding tasks.
- Preparation of a preliminary list of candidate reference sites in a technical memorandum based on relevant site characteristics including:
 - Physical – water, sediment, adjacent soils, source of sediment, habitat structure and watershed characteristics (i.e. geology, topography, percentage of development, waste water management practices, water budget characteristics, percentage of original floodplain and wetland area retained);
 - Stressors – physical (i.e., suspended solids), salinity, conventional and non-conventional parameters;
 - Climatic – if an area outside the Meadowlands is considered; and
 - Biological – community characteristics.
- Site visits to candidate sites with project team (BCSA Group representatives and agencies).
- Proposed reference areas with supporting analysis, indicators of how the relative degrees of disturbances were weighed (Stoddard et al., 2006).

3.6.2. Deliverables

The initial step of this task will be the identification of a list of candidate reference sites in a Technical Memorandum with supporting rationale as to the why particular areas are being considered as potential reference areas. The final step in the process will be the presentation of the screening process and the rationale for the recommended preliminary reference areas in a Technical Memorandum, which will be prepared in a manner that can be incorporated into the development of the RI/FS Work Plan. Subsequent refinement of the reference areas will be completed as Data Quality Objectives (DQOs) are refined and the risk assessments are initiated.

3.7. Task 7 – Identify Ecologically-Relevant Receptors

A key part of the development of the conceptual site models is the identification of ecologically-relevant receptor groups for which assessment endpoints are selected. An assessment endpoint is an explicit expression of the environmental value that is to be protected (USEPA, 1997 and 2005b and references therein).

At the BCSA, the anticipated range of naturally limiting factors (e.g., salinity, suspended sediments) will require that several groupings of ecologically-relevant receptors be identified, consistent with the findings of several of the preceding tasks.

3.7.1. Screening Process

The selected ecologically-relevant receptor groups, ideally, will be (1) less sensitive to other stressors than to the chemicals of potential concern (COPCs), and (2) will be found in the selected reference area(s). A list of candidate groups will be identified based on analysis of information from file reviews (USEPA, NJDEP, USFWS, NOAA and MERI), site visits conducted under Tasks 3 and 6, literature review (e.g., "Screening Level Ecological Risk Assessment of Contamination in Wetlands Considered for Restoration in Hackensack Meadowlands District, 2004 Final Report, ENSR for MERI") and, to the extent they are relevant, reports from the Passaic River and Newark Bay (<http://ourpassaic.org>), and comparison of potentially relevant receptor groups and the mechanisms of toxicity related to key COPCs identified in Task 5.

A balance among individual, population and community level assessment endpoints will be a goal to the extent practicable. Also, particular attention will be given to include some ecologically-dominant or keystone species among the assessment endpoint candidate groups.

3.7.2. Deliverables

The proposed ecologically-relevant receptors (and associated preliminary assessment endpoints) for each BCSA segment will be presented in a technical memorandum with supporting analysis. This memorandum will be prepared in a manner that can be readily incorporated into the RI/FS Work Plan.

3.8. Task 8 – Conceptual Site Model (CSM) Preparation

Conceptual site models are tools that illustrate and communicate to the project team the key site conditions, processes, fate and transport factors, exposure pathways and uptake mechanisms. They are iteratively refined throughout the RI/FS process and serve to focus the study questions, site characterization methods and strategies, and the development of risk mitigation alternatives. These alternatives can be developed to disconnect exposure pathways and reduce the mass, mobility and toxicity where exposure pathways may be complete under future scenarios based on the validated conceptual models (USEPA, 2005b).

A preliminary conceptual site model is included in the Framework Document. This CSM preliminarily identified possible relationships between sources of contamination, environmental release and transport mechanisms, potential exposure routes, and potentially exposed population. EPA recognized that Figure 3-7 of the Framework Document is an initial concept to be refined as data are collected and interpreted.

3.8.1. Preparing CSMs

Under Task 8 of the SAWP, the information compiled under Tasks 1 through 7 will be used to prepare sets of illustrative figures extending from the general BCSA-wide dynamics to segment-level processes. In addition several chemical-specific CSMs (e.g. mercury, PAHs, PCBs) that include bioavailability components may be developed based on general scientific literature and

site-specific information; for example, bioavailability research on Berry's Creek sediments conducted in the late 1980s (Clarke, et. al., 1988).

The more detailed CSM analysis will be specific to particular segments of the BCSA because historical and continuing sources and the receptor/receptor dynamics (human and ecological) vary widely along the course of the Berry's Creek waterway and its tributaries. Given the importance of this task and the preceding tasks, the BCSA Group may use a subcontractor to assist with graphics and presentation of the estuary dynamics.

To facilitate incorporation of the perspectives of the various interested agencies, a series of meetings will be scheduled to review and comment on the various CSM components, probably starting with the development of a hydrodynamic CSM and progressing to sediment transport and bioavailability in connection with the candidate assessment endpoints identified in Task 7. In addition, this series of discussions may be linked to the preparation of the RI/FS Work Plan, in particular as related to the refinement of study questions presented in the Framework Document.

3.8.2. Deliverables

After initiation of the tasks 1 through 7, the first step in this task will be the preparation of a Technical Memorandum that identifies rationale and types of CSMs that will be developed generated by this task. At the completion of Task 8, the BCSA Group will have prepared a preliminary set of CSMs that capture much of the most relevant information from Tasks 1 through 7 for use in developing a shared vision for the RI/FS Work Plan. Text describing the CSM development process and the information presented on the CSMs will be prepared to accompany the CSM figures all of which can be used in the RI/FS Work Plan.

3.9. Task 9 - Methods Development Work

"The identification of data needs is the most important part of the scoping process. If additional data are needed, the intended uses of the data are identified, strategies for sampling and analyses are developed, DQOs are established, and priorities are assigned according to the importance of the data in meeting the objectives of the RI/FS. A more complete description of the data uses and their appropriate analytical levels (Figure 2-3) can be found in the DQO Guidance."(USEPA, 1988, Section 2.2.6).

This excerpt and the referenced figure in the RI/FS guidance emphasizes the importance of setting the analytical level and type of analysis consistent with the data uses, and with the Data Quality Objectives (DQOs). A large volume of data will be generated as part of the BCSA RI/FS. The Framework document appears to prescribe that typical sampling and analytical methods should be employed and that all data should be subjected to data validation as if the information were being used in a quantitative risk assessment. Such stipulations and assumptions, with the possible exception of surface water, warrant reconsideration given the range of conditions encountered at the BCSA, the variety of uses for the data, and data collection and analysis difficulties being experienced by others working in impacted urban watersheds. More specifically, the highly disturbed nature of physical, chemical and biological conditions at the BCSA supports the need to evaluate both sampling and analytical methods, and to identify necessary refinements that can meet relevant location-specific DQOs without leading to numerous data qualifiers.

Task 9 serves to further link the scoping activities work to the development of the RI/FS Work Plan. More specifically, the methods development work will be conducted to evaluate the applicability of both sampling methods and analytical methods to the type of data needed for the BCSA assessment. The method development activities provide an opportunity to refine the standard operating procedures (SOPs) for the collection of field samples. It also will evaluate the specific questions and likely confounding factors that will need to be managed during analysis. The early development and approval of appropriate methods will reduce the likelihood of having to repeat sampling and field activities due to unacceptable but probable deficiencies in data quality.

The methods development work will consequently require a rather detailed Work Plan and associated Sampling and Analysis (SAP) and Quality Assurance Project Plan (QAPP) that will be developed, possibly by a contractor hired specifically for this work. A SAWP Addendum, SAP and QAPP will be prepared and submitted to the USEPA for review following the initiation of Tasks 1 – 8, using *Guidance on Systematic Planning Using the Data Quality Objective Process* (EPA/240/B-06/001; USEPA, 2006), related guidance documents found at http://www.epa.gov/quality/qa_docs.html, Uniform Federal Policy for Quality Assurance Project

Plans (UFP-QAPP; found at <http://www.epa.gov/fedfac/documents/qualityassurance.htm>) and, to the extent they are relevant, quality assurance project plans for the Passaic River and Newark Bay (<http://ourpassaic.org>). The remainder of this section of the SAWP outlines some of the sampling and analytical issues that will be the subject of the subsequent submittals. As the Scoping Activities develop, the specific methods development activities may be revised or updated. Any revisions would be presented in the subsequent methods development submittals.

3.9.1. *Sampling Methods*

Obtaining samples that are representative not only of physical characteristics but of other important characteristics, such as of the mobility, bioavailability, biouptake, and exposure point concentrations is a key part of validating detailed conceptual models, realistic risk assessment and identification of alternatives that are directed towards the mechanisms of chemical release and uptake. In Berry's Creek there have been some previous specific studies completed to look at location specific refinements of sampling methods. This task will be initiated by a careful review of those studies and interviews with investigators of the Berry's Creek area to determine what has been learned about sampling obstacles. A list of sampling related issues will be compiled from review of these activities and from experiences during the early RI/FS Work Plan scoping tasks. From this list, several sampling protocols will be identified for refinement and evaluation of alternate sampling approaches. Some of the issues identified thus far include:

- **Suspended Particulates**

Methods should be developed for sampling suspended particulates to determine the relative concentrations of COPCs on differing particle size groups. This information is used in evaluating mobility, potential bioavailability and probable settling locations as part of the fate and transport analysis, and subsequent calculations of short term and long terms risk estimates. In addition, a comparative assessment of the methods used to estimate deposition rates and the concentrations of COPCs on the settled particulates would also support more realistic estimates of the redistribution of COPC mass over time.

- **Sediment Samples**

Despite *Phragmites* widespread distribution and even after numerous field studies, there are no commonly accepted methods for collecting representative sediment samples in areas of *Phragmites*. After a literature review and interviews with researchers that have attempted to address this concern, a comparative sampling analysis might be conducted to identify a protocol that reduces the sediment concentration variability. This will help avoid excessive variability in sediment data collected from *Phragmites* stands so that the COPC distribution (horizontal and vertical) in the swamps is accurately determined, to the extent practicable.

- **Plants**

Methods would be developed for sampling plant materials that are representative of the exposure concentrations of the ecological assessment and measurement endpoints. For example, different collection procedures and plant parts are likely for different plants. In addition, methods to estimate the loss of some COPCs to volatilization from wetland plants may be evaluated and refined for those chemicals where such a process is potentially important.

- **Fish**

Many fish species in estuaries are rather mobile and their activity patterns and habitat use varies seasonally. Physical structures such as tide gates may also influence distribution. Consequently, it is important to get realistic estimates of the distribution of ecologically-relevant species along the Berry's Creek waterway, including up into the smaller tributaries to determine realistic habitat use patterns. Sampling in many of these habitats is difficult and requires varied and alternate methods. Studies of the application of the sampling methods and location-specific refinements as part of methods development would support the acquisition of a more complete set of co-located surface water, sediment and biota samples for evaluation in the RI/FS. In addition, some studies have evaluated the influences of the gut contents on the whole fish tissue analysis for only a few COPCs. However, the relatively large number of COPCs with broad ranges of concentrations in sediments distributed along the Berry's Creek waterway likely

warrants additional evaluation of this technique to ensure the data from forage fish are representative of the exposure for which they are being evaluated.

3.9.2. *Analytical Methods Development*

Consistent with the recognition in the USEPA guidance that not all data must be of the same analytical level to be fully useable for its intended purpose, two types of analytical methods development are planned for evaluation:

- **Field Methods Development**

To facilitate timely and detailed characterization of chemical constituents, field methods with limited data validation protocols will likely be employed for surface water and sediment. This will allow broader special coverage with a higher density of data points. This potentially raises the question of the representativeness of the results of these methods under the varying conditions and potential interference factors, compared with fixed laboratory results. In addition, another relevant question is how many constituents must be sampled and analyzed with a field method(s) to ensure that the concentration distribution patterns that emerge can be readily confirmed by a limited number of samples for fixed laboratory analysis and full data validation?

To answer these and similar questions about methods such as XRF, immunoassays, and field laboratory analyzed samples, some studies will be proposed to determine what methods and ratios of samples would yield a reliable result. The results of such studies would be presented to the USEPA in a technical memorandum and incorporated into the sampling strategy in the RI/FS work plan.

- **Method Detection Limits and Interference Issues**

There are several issues under this title that might be considered for evaluation as part of methods development work.

First, for many of the probable COPCs (chromium, lead, mercury, zinc, PAHs, and PCBs), the concentrations of these constituents in background areas may be relatively

elevated compared with many risk screening levels. Also, the reported concentrations of these COPCs over relatively large portions of the BCSA would seem to make low detection levels as a universal goal unnecessary and possibly counterproductive. This could lead to laboratory qualifiers being added to samples with high concentrations. Therefore, it may be advantageous to establish through testing of sediments collected at the BCSA what method detection limits are a proper match for the BCSA conditions and data uses. This could include lower detection limits to support some fate and transport goals, for example, methyl mercury in surface water.

Second, several constituents such as iron, organic carbon, methane and sulfur compounds are known to occur in abundance in the BCSA. In addition, a notably large range (i.e. from very high to background) of groups of some COPCs is known to co-occur at some locations. In other areas, some individual COPCs are found over a notably large concentration range. These scenarios cause difficulties with some analytical methods and may require site-specific sample cleanup to address interferences special sample processing, and/or analytical instrument adjustments to ensure the proper calibration ranges for certain types of samples. To facilitate assessment and accommodation by the laboratory, samples from an anticipated range of conditions in the BCSA would be collected and provided to a laboratory (preferably a laboratory that would handle the RI/FS samples) to run a series of analysis variations to determine appropriate method refinements for the RI/FS Work Plan, QAPP and SAP.

3.9.3. Deliverables

The results of the methods development work would be presented to the USEPA in a technical memorandum with specific recommendations related to fulfilling the data needs and DQOs established for the RI/FS.

4.0 SCHEDULE

Section 3 described the scope of each task and the associated specific deliverables. All of these deliverables will be prepared in a manner that facilitates their direct incorporation into the RI/FS Work Plan. As part of the process, the BCSA Group will provide preliminary drafts of

deliverables to the USEPA for review and comment as part of the work group approach recommended by the BCSA Group. The timing and sequence of the submission of technical memoranda identified in Section 3 will be established in consultation with the USEPA as the work progresses and will be documented in the Monthly Progress Reports, as required in the Administrative Order of Consent (AOC). In addition, work products from the nine tasks will be compiled into two major deliverables that will be titled the Compilation of Scoping Activities Information (COSAI). The first submittal of the COSAI will be 120 days from the execution of the AOC and will contain all deliverables completed as of that date. The Final COSAI will be submitted 120 days after the submission of the initial COSAI and will contain all of the additional deliverables to the extent they are complete at that time, unless the date of submission of the Final COSAI is extended by the USEPA. In particular, the results of Task 9 (Methods Development Work) will be provided to the extent possible in the Final COSAI, given the work on this task is likely to take until March of 2008 to complete.

A schedule for the initiation of work on individual tasks is as follows:

- Task 1 through 4 will begin within 14 days of the execution of the interim AOC.
- Work on Task 5 is on-going.
- Tasks 6 and 7 to begin within 60 days of the initiation of Tasks 1 through 4 because of probable influence of the results on Tasks 6 and 7.
- Task 8 will be conducted iteratively along with other activities and completed shortly after the completion of Tasks 1 through 7.
- Task 9 will be initiated after work on Tasks 1 through 8 has been initiated or completed to a sufficient level to guide the detailed planning of the Methods Development Work. A Draft Work Plan Addendum detailing the proposed Methods Development Work will be presented to EPA in the summer of 2007.

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This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.



Legend
 Berry's Creek Study Area Boundary
 Municipalities
 Counties

DRAFT

The Berry's Creek study area delineation is based on the NJDEP 14 Digit Hydrologic Unit Code delineations for New Jersey (DEPHUC14 GIS dataset), representing sub-watersheds that are approximately a minimum size of 3,000 acres. The DEPHUC14 delineation was developed from 1:24,000 scale (7.5-minute) USGS quadrangles; field verification was not performed and stormdrainage infrastructure was not considered in this delineation.

